

CLAIM CHART

U.S. PATENT NO. 7,980,998 – CLAIM 1

Claimed Limitation	Patent Specification	Corresponding Structure in Accused Systems – Fitbit LLC																																								
1. A personal device for measuring a training activity of a trainee having a body part which moves and changes its location and orientation, during said training activity, this movement at least partially defining said training activity, said device comprising:	<table><tr><th>Name</th><th>Number of completed laps</th><th>Elapsed time</th><th>Last lap time</th><th>Number of hand strokes per lap</th><th>Number of leg strokes per lap</th><th>Average distance per hand stroke</th><th>Heart rate</th><th>Average height of right hand stroke</th><th>Average height of left hand stroke</th></tr><tr><td>Lat</td><td>12</td><td>00:05:45</td><td>45</td><td>12</td><td>54</td><td>2.08</td><td>134</td><td>1.3</td><td>0.2</td></tr><tr><td>Mulan</td><td>32</td><td>00:20:45</td><td>35</td><td>14</td><td>65</td><td>1.79</td><td>142</td><td>1.2</td><td>0.15</td></tr><tr><td>Yves</td><td>11</td><td>00:06:12</td><td>54</td><td>15</td><td>68</td><td>1.67</td><td>145</td><td>1.1</td><td>0.1</td></tr></table> <p>FIG.</p>	Name	Number of completed laps	Elapsed time	Last lap time	Number of hand strokes per lap	Number of leg strokes per lap	Average distance per hand stroke	Heart rate	Average height of right hand stroke	Average height of left hand stroke	Lat	12	00:05:45	45	12	54	2.08	134	1.3	0.2	Mulan	32	00:20:45	35	14	65	1.79	142	1.2	0.15	Yves	11	00:06:12	54	15	68	1.67	145	1.1	0.1	<p>Fitbit sells the Fitbit Versa 4. The Fitbit Versa 4 is a wearable training device and watch that can track a user’s exercise activities.</p> <p>Google Fitbit PRODUCTS TECHNOLOGY</p> <p>versa 4</p> <p>\$199.95</p> <p>Get better results from your workout routine with this thin, lightweight fitness smartwatch.</p> <p>Colors</p> <p>Black / Graphite Aluminum</p> <p>Buy on Google Store</p> <p>Complete your purchase on Google Store</p> <p>Source: (Fitbit Versa 4 Product Page)</p>
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		<div><div><div><div>FITNESS</div><div><div>Heart rate tracking</div><div>Active Zone Minutes</div><div>Built-in GPS</div><div>Cardio Fitness Score</div><div>Daily Readiness Score</div><div>Automatic exercise tracking</div><div>Exercise modes</div><div>Water resistant</div><div>Workouts on your phone</div><div>Steps, distance & calories</div></div></div><div><div>HEALTH</div><div><div>SpO2 (blood oxygen) tracking</div><div>Resting heart rate</div><div>High & low heart rate notifications</div><div>Heart rate variability</div><div>Skin temperature variation</div><div>Breathing rate</div><div>Wellness report</div><div>Blood glucose tracking (in app only)</div><div>Menstrual health tracking</div></div></div><div><div>SLEEP & STRESS</div><div><div>Sleep tracking & sleep stages</div><div>Sleep Profile</div><div>Sleep Score</div><div>Smart Wake alarm</div><div>Stress Management Score</div><div>Mindfulness sessions</div><div>Relax breathing sessions</div><div>Reflections</div></div></div><div><div>SMARTS & MORE</div><div><div>On-wrist Bluetooth® calls</div><div>Call, text and app notifications</div><div>Alexa Built-in</div><div>Google Maps</div><div>Google Wallet</div><div>Fitbit Pay</div><div>Find My Phone</div><div>Always-on display mode</div><div>Do not disturb & sleep mode</div><div>Fast charging</div><div>6+ day battery</div></div></div></div><div>Source: (Fitbit Versa 4 Features)</div></div>
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(a) a sensing unit adapted to repeatedly measure, during said training activity, parameters associated with the movement of said body part and characterizing the location and orientation of said body part relative to its initial location and orientation,

“The device is particularly useful for **automatic measuring repetitive activity**, in which case said processor may be adapted to calculate the periodicity of said activity based on parameters received from the sensing unit.” Col. 4 ll. 27-30

The Fitbit Versa 4 contains sensors, comprising a sensing unit, within the watch body of the device. The Fitbit Versa 4 can detect different swimming strokes, implying that it can track the position and orientation of the trainee’s arm as it moves along with the device.

Sensors

MONITORS BLOOD OXYGENATION LEVELS
✓ Fitbit Versa 4
Your blood oxygen level is a measurement how much oxygen is reaching your muscles. It is important

HAS A HEART RATE MONITOR
✓ Fitbit Versa 4
A heart rate monitor can help show your fitness levels, enabling you to calculate a suitable intensity of

HAS GPS
✓ Fitbit Versa 4
GPS enables global positioning, useful in map, geo-tagging or navigation apps.

HAS AN ACCELEROMETER
✓ Fitbit Versa 4
An accelerometer is a sensor used to measure the linear acceleration of a device. A common application

HAS A TEMPERATURE SENSOR
✗ Fitbit Versa 4
With a temperature sensor you can monitor changes in temperature to measure your exertion levels and avoid

HAS A COMPASS
✓ Fitbit Versa 4
A compass is useful for gaming, maps, and navigation software.

HAS A BAROMETER
✓ Fitbit Versa 4
This measures barometric air pressure. It can predict weather changes, for example a sudden drop in air

HAS A GYROSCOPE
✓ Fitbit Versa 4
A gyroscope is a sensor that tracks the orientation of a device, more specifically by measuring the angular

HAS A CADENCE SENSOR
✗ Fitbit Versa 4
A cadence sensor measures the number of pedal revolutions per minute when you are cycling. It enables

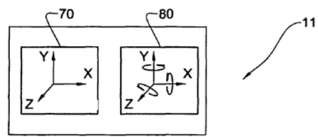
Source: (Fitbit Versa 4 Review)

Which strokes can I use to swim with my Fitbit device?

Swim using any of the 4 most common strokes (freestyle, backstroke, breaststroke, and butterfly). For best results, we recommend swimming freestyle.

Source: (Fitbit Help Center - How do I track swims with my Fitbit device?)

and wherein said sensing unit comprising at least accelerometer means,



The Fitbit Versa 4 contains an accelerometer.

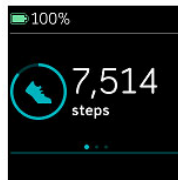
Sensors & Components

- Multi-path optical heart rate sensor
- Red and infrared sensors for oxygen saturation (SpO2) monitoring
- Altimeter
- **3-axis accelerometer**
- Ambient light sensor
- NFC
- Built-in GPS + GLONASS
- Vibration motor
- Speaker (75dB SPL @10cm)
- Microphone
- WiFi (deactivated, cannot be turned on)
- Device temperature sensor (skin temperature variation available in the Fitbit app)

Source: (Fitbit Versa 4 Specs)

[How does my Fitbit device count steps taken?](#)

Fitbit devices use a 3-axis accelerometer to count your steps. This sensor also allows your device to determine the frequency, duration, intensity, and patterns of your movement.



Source: (Fitbit Help Center - How does my Fitbit device calculate my daily activity?)

a compass and

The Fitbit Versa 4 contains a compass.

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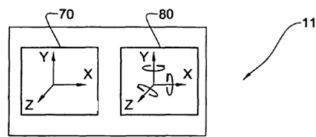
HAS A BAROMETER
✓ Fitbit Versa 4
This measures barometric air pressure. It can predict weather changes, for example a sudden drop in air

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A gyroscope is a sensor that tracks the orientation of a device, more specifically by measuring the angular

HAS A CADENCE SENSOR
✗ Fitbit Versa 4
A cadence sensor measures the number of pedal revolutions per minute when you are cycling. It enables

Source: (Fitbit Versa 4 Review)

optionally gyroscope means,



The Fitbit Versa 4 contains a gyroscope.

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Source: (Fitbit Versa 4 Review)

said accelerometer means being adapted to measure linear acceleration of said body part along three axes,

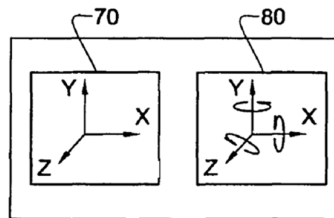


FIG. 2B

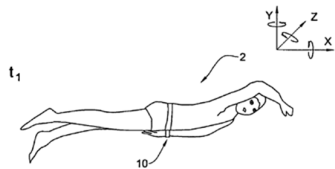
The Fitbit Versa 4 contains a 3-axis accelerometer.

Sensors & Components

- Multi-path optical heart rate sensor
- Red and infrared sensors for oxygen saturation (SpO2) monitoring
- Altimeter
- **3-axis accelerometer**
- Ambient light sensor
- NFC
- Built-in GPS + GLONASS
- Vibration motor
- Speaker (75dB SPL @10cm)
- Microphone
- WiFi (deactivated, cannot be turned on)
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Source: (Fitbit Versa 4 Specs)

said gyroscope means being adapted to measure angular acceleration of said body part around said three axes, and said parameters being at least linear and angular acceleration values;



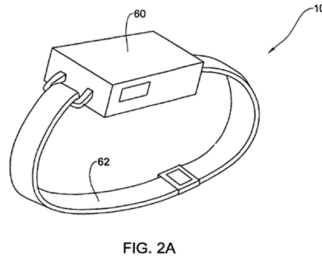
The Fitbit Versa 4 can detect stroke types while the user is swimming, which implies that the gyroscope in the Fitbit Versa 4 tracks angular acceleration along three axes. This is accomplished either by the Fitbit Versa 4's gyroscope being three axis, or through it being adapted to measure three-axis angular acceleration through combining data with the 3D compass.

Which strokes can I use to swim with my Fitbit device?

Swim using any of the 4 most common strokes (freestyle, backstroke, breaststroke, and butterfly). For best results, we recommend swimming freestyle.

Source: (Fitbit Help Center - How do I track swims with my Fitbit device?)

means for attaching the sensing unit to said body part; and



The Fitbit Versa 4 is attached to a trainee's arm by way of the watch band. The sensing unit is contained within the Fitbit Versa 4 in the body of the watch. The watch band attaches the watch body to the user's arm.

Materials

This watch includes a band made of a flexible material similar to that used in many sports watches, as well as an aluminum watch case and buckle.

Learn more about wear and care tips [here](#).

Band Size

Small

- Fits wrist 5.1" - 7" in circumference

Large

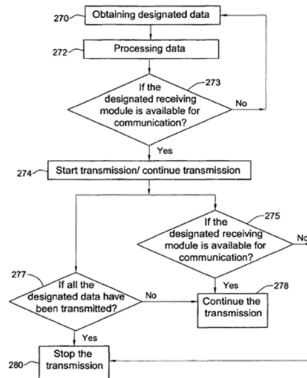
- Fits wrist 6.5" - 8.6" in circumference

Dimensions

- 1.5in l x 1.5in w x 0.45in h

Source: (Fitbit Versa 4 Specs)

a processor adapted to receive from the sensing unit said parameters, and to calculate based thereon, data indicative of said training activity, said data including at least the location and orientation of said body part for each of the measurements.



The Fitbit Versa 4 contains a processor within the body of the watch. The processor receives and calculates position and orientation data based on the training activity, which allows the Fitbit Versa 4 to track the training activity.



Automatic exercise tracking

Auto-detects when you're exercising and records your stats in the app.



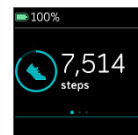
Exercise modes

Track your favorite exercises like runs, bike rides, weights, yoga & more and get live stats on your wrist.

Source: (Fitbit Versa 4 Features)

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Fitbit devices use a 3-axis accelerometer to count your steps. This sensor also allows your device to determine the frequency, duration, intensity, and patterns of your movement.



Source: (Fitbit Help Center - How does my Fitbit device calculate my daily activity?)